

Supplemental Table 1: List of myeloma treatments included in study.

Generic Name	Brand Name	CPT/HCPCS Procedural Code(s)	ICD 10 Procedure Codes
BORTEZOMIB	velcade, chemoobort, bortecad	S0115, J9044, J9041, C9207	
BELANTAMAB	blenrep	C9069, J9037	
BENDAMUSTINE	Treanda	J9036, C9042, J9034, J9033, C9243	
CARFILZOMIB	kyprolis	C9295, J9047	
CARMUSTINE	BiCNU	C9437	
CYCLOPHOSPHAMIDE	cytoxan, procytox, cycloblastin	C9429, C9421, J8530, J9070, J9080, J9090, J9091, J9092, J9093, J9094, J9095, J9096, J9097	
DARATUMUMAB (with or without HYALURONIDASE)	darzalex, darzalex faspro	J9144, C9062	
DOXORUBICIN	adriamycin, caelyx, myocet, doxil	C9415, J9000, J9001, Q2048, Q2049, Q2050	
ELOTUZUMAB	empliciti	C9477, J9176	
ETOPOSIDE	VP-16	J9182, C9425, C9414, J9181, J8560,	
IDECABTAGENE VICLEUCEL		Q2055	XW043K7
ISATUXIMAB	sarclisa	J9227	
IXAZOMIB	ninlaro		
LENALIDOMIDE	revlimid, linamide		
MELPHALAN	alkeran, evomela, phelinun	J9245, J9246, J8600	
MELPHALAN FLUFENAMIDE or MELFLUFEN		C9080	
PANOBINOSTAT	farydak		
POMALIDOMIDE	pomalyst, imnovid		
SELINEXOR	xpovio		
THALIDOMIDE	contergan, thalomid, talidex	J9370, J9371, J9375, J9380	
VINCRISTINE	oncovin	J9370, J9371, J9375, J9380	

Supplemental Table 2: Sensitivity, specificity, and positive predictive value (PPV) for identifying patients with multiple myeloma of algorithms incorporating different combinations of diagnostic codes, treatment codes, and the VA cancer registry.

Algorithm	Sensitivity (95% CI)	Specificity (95% CI)	PPV (95% CI)
Dx: 1 Tx: 0 Vacr: TRUE	0.707 (0.671-0.74)	0.878 (0.807-0.93)	0.971 (0.952-0.983)
Dx: 1 Tx: 0 Vacr: FALSE	0.999 (0.992-1)	0.024 (0.005-0.07)	0.854 (0.828-0.877)
Dx: 1 Tx: 1 Vacr: TRUE	0.707 (0.671-0.74)	0.878 (0.807-0.93)	0.971 (0.952-0.983)
Dx: 1 Tx: 1 Vacr: FALSE	0.999 (0.992-1)	0.024 (0.005-0.07)	0.854 (0.828-0.877)
Dx: 1 Tx: 2 Vacr: TRUE	0.681 (0.645-0.715)	0.886 (0.816-0.936)	0.972 (0.953-0.984)
Dx: 1 Tx: 2 Vacr: FALSE	0.932 (0.91-0.949)	0.187 (0.122-0.267)	0.867 (0.841-0.891)
Dx: 1 Tx: 3 Vacr: TRUE	0.661 (0.625-0.696)	0.902 (0.836-0.949)	0.975 (0.956-0.987)
Dx: 1 Tx: 3 Vacr: FALSE	0.886 (0.86-0.909)	0.317 (0.236-0.407)	0.881 (0.855-0.904)
Dx: 2 Tx: 0 Vacr: TRUE	0.704 (0.668-0.737)	0.878 (0.807-0.93)	0.971 (0.952-0.983)
Dx: 2 Tx: 0 Vacr: FALSE	0.993 (0.983-0.998)	0.439 (0.35-0.531)	0.91 (0.887-0.929)
Dx: 2 Tx: 1 Vacr: TRUE	0.704 (0.668-0.737)	0.878 (0.807-0.93)	0.971 (0.952-0.983)
Dx: 2 Tx: 1 Vacr: FALSE	0.993 (0.983-0.998)	0.439 (0.35-0.531)	0.91 (0.887-0.929)
Dx: 2 Tx: 2 Vacr: TRUE	0.681 (0.645-0.715)	0.886 (0.816-0.936)	0.972 (0.953-0.984)
Dx: 2 Tx: 2 Vacr: FALSE	0.929 (0.907-0.947)	0.504 (0.412-0.595)	0.914 (0.891-0.934)
Dx: 2 Tx: 3 Vacr: TRUE	0.661 (0.625-0.696)	0.902 (0.836-0.949)	0.975 (0.956-0.987)
Dx: 2 Tx: 3 Vacr: FALSE	0.885 (0.859-0.907)	0.585 (0.493-0.673)	0.924 (0.901-0.943)
Dx: 3 Tx: 0 Vacr: TRUE	0.699 (0.664-0.733)	0.878 (0.807-0.93)	0.97 (0.952-0.983)
Dx: 3 Tx: 0 Vacr: FALSE	0.986 (0.974-0.993)	0.593 (0.501-0.681)	0.933 (0.912-0.95)
Dx: 3 Tx: 1 Vacr: TRUE	0.699 (0.664-0.733)	0.878 (0.807-0.93)	0.97 (0.952-0.983)
Dx: 3 Tx: 1 Vacr: FALSE	0.986 (0.974-0.993)	0.593 (0.501-0.681)	0.933 (0.912-0.95)
Dx: 3 Tx: 2 Vacr: TRUE	0.678 (0.642-0.713)	0.886 (0.816-0.936)	0.971 (0.953-0.984)
Dx: 3 Tx: 2 Vacr: FALSE	0.923 (0.901-0.942)	0.642 (0.551-0.727)	0.936 (0.916-0.953)
Dx: 3 Tx: 3 Vacr: TRUE	0.658 (0.622-0.693)	0.902 (0.836-0.949)	0.975 (0.956-0.987)
Dx: 3 Tx: 3 Vacr: FALSE	0.88 (0.854-0.903)	0.707 (0.619-0.786)	0.945 (0.925-0.961)

Supplemental Table 3: Sensitivity, specificity, and positive predictive value (PPV) for identifying patients with multiple myeloma who initiated treatment within VA of algorithms incorporating different combinations of diagnostic codes, treatment codes, and the VA cancer registry.

Algorithm	Sensitivity (95% CI)	Specificity (95% CI)	PPV (95% CI)
Dx: 1 Tx: 0 Vacr: TRUE	0.8 (0.762-0.834)	0.545 (0.471-0.617)	0.821 (0.784-0.854)
Dx: 1 Tx: 0 Vacr: FALSE	0.998 (0.989-1)	0 (0-0.019)	0.723 (0.688-0.756)
Dx: 1 Tx: 1 Vacr: TRUE	0.8 (0.762-0.834)	0.545 (0.471-0.617)	0.821 (0.784-0.854)
Dx: 1 Tx: 1 Vacr: FALSE	0.998 (0.989-1)	0 (0-0.019)	0.723 (0.688-0.756)
Dx: 1 Tx: 2 Vacr: TRUE	0.772 (0.733-0.808)	0.565 (0.492-0.637)	0.823 (0.785-0.857)
Dx: 1 Tx: 2 Vacr: FALSE	0.96 (0.939-0.975)	0.147 (0.1-0.205)	0.747 (0.711-0.78)
Dx: 1 Tx: 3 Vacr: TRUE	0.752 (0.712-0.789)	0.586 (0.513-0.657)	0.826 (0.788-0.86)
Dx: 1 Tx: 3 Vacr: FALSE	0.934 (0.909-0.954)	0.246 (0.187-0.313)	0.764 (0.729-0.797)
Dx: 2 Tx: 0 Vacr: TRUE	0.796 (0.758-0.83)	0.545 (0.471-0.617)	0.821 (0.784-0.854)
Dx: 2 Tx: 0 Vacr: FALSE	0.992 (0.98-0.998)	0.005 (0-0.029)	0.723 (0.688-0.756)
Dx: 2 Tx: 1 Vacr: TRUE	0.796 (0.758-0.83)	0.545 (0.471-0.617)	0.821 (0.784-0.854)
Dx: 2 Tx: 1 Vacr: FALSE	0.992 (0.98-0.998)	0.005 (0-0.029)	0.723 (0.688-0.756)
Dx: 2 Tx: 2 Vacr: TRUE	0.772 (0.733-0.808)	0.565 (0.492-0.637)	0.823 (0.785-0.857)
Dx: 2 Tx: 2 Vacr: FALSE	0.958 (0.937-0.974)	0.152 (0.104-0.211)	0.747 (0.712-0.78)
Dx: 2 Tx: 3 Vacr: TRUE	0.752 (0.712-0.789)	0.586 (0.513-0.657)	0.826 (0.788-0.86)
Dx: 2 Tx: 3 Vacr: FALSE	0.932 (0.906-0.952)	0.246 (0.187-0.313)	0.764 (0.728-0.797)
Dx: 3 Tx: 0 Vacr: TRUE	0.79 (0.752-0.825)	0.545 (0.471-0.617)	0.82 (0.782-0.853)
Dx: 3 Tx: 0 Vacr: FALSE	0.986 (0.971-0.994)	0.01 (0.001-0.037)	0.723 (0.688-0.756)
Dx: 3 Tx: 1 Vacr: TRUE	0.79 (0.752-0.825)	0.545 (0.471-0.617)	0.82 (0.782-0.853)
Dx: 3 Tx: 1 Vacr: FALSE	0.986 (0.971-0.994)	0.01 (0.001-0.037)	0.723 (0.688-0.756)
Dx: 3 Tx: 2 Vacr: TRUE	0.768 (0.728-0.804)	0.565 (0.492-0.637)	0.822 (0.785-0.856)
Dx: 3 Tx: 2 Vacr: FALSE	0.954 (0.932-0.971)	0.157 (0.109-0.217)	0.748 (0.712-0.781)
Dx: 3 Tx: 3 Vacr: TRUE	0.748 (0.708-0.785)	0.586 (0.513-0.657)	0.826 (0.787-0.859)
Dx: 3 Tx: 3 Vacr: FALSE	0.928 (0.902-0.949)	0.246 (0.187-0.313)	0.763 (0.727-0.796)